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ABSTRACT

Described are the development of "Findings Kids with Special Needs" (FKSN), a instrument to identify children's learning problems and gifted students; results of field testing with 24,825 children, kindergarten through grade 8, in 110 schools; and validation procedures. Discussed is test construction, including incorporation of 12 criteria such as low use of teacher time, and 39 vignettes (developed by 19 special educators) which describe 18 subcategories of need that can be grouped into the 10 major handicapping areas. The following is an example of a vignette: "Jane can read material which is about five grade levels above her class, however, her handwriting is poor and she is about average-to-above in most other subjects". Results of field testing in five midwestern states are given to show that 6,448 children had one or more areas of special need, that there were a total of 10,351 combined special needs (9% were severe), and that 993 teachers spent a minimum of 25 and a maximum of 55 minutes per class checking vignettes against observed student behaviors. School personnel requests for confidentiality are said to have been honored in computer assisted development of a student profile, building profile, and a master list of students for local school use. Discussed are results of validation procedures such as studies involving 24 special school children and 2,151 regular class children which show that the FKSN accurately identifies school children with learning problems. The FKSN is recommended to fill the gap between children already referred and children in need of special services, and to free special education staff from psychometric duties for more support to regular class teachers. (MC)

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FINDING KIDS WITH SPECIAL NEEDS

the background, development, field test & validation

BACKGROUND

Education has many important areas with which to deal, but none is more critical than the need to find and provide appropriate services to kids with learning problems. Unfortunately, this need cannot be met until some significant changes are made in our identification and service delivery systems.

By listening to classroom teachers, building principals frequently know which kids are in the worst academic difficulty or which ones are acting out the most. Results from the ITBS, CAT, SAT and CTMM confirm many of these reported cases. However, these data do little more than add to the list those kids who may have equally pressing academic needs but who have learned to cope well enough not to hassle the teacher.

Now comes a crucial question. "What is causing the learning problems which produce the symptomatic, low achievement test scores and acting-out behavior?"

A. THE REFERRAL SYSTEM:

For any school administrator or board member who has faced this question head on, the answers are quite disturbing. Obviously, it is not enough to say that a child cannot read. We must also find out what may be causing his difficulty and determine which techniques are most likely to meet his individual needs.

In most school districts, the referral system is the primary method of identifying the learning problems of specific kids. To make this system work, however, the teacher must decide that her available resources, training and time are too limited to handle the needs of an individual child. Thus, referring a child to the appropriate specialist requires a good deal of self-confidence, because it sometimes leaves the teacher open to the criticism that she isn't competent.

Because of this natural hesitancy, many kids just plain do not get referred. Those who do have built up such a history of adverse behavior that the referring teacher feels that any outside person would confirm her assessment that the child needs more help than she can give. By now, of course, the child's behavior may have had several years to become increasingly worse so that remediation is next to impossible and extremely expensive.

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Once identified, still another frustration has to be faced -- how to get services to the kids referred. This problem is accentuated by budget constraints on the number of psychologists, speech therapists, audiologists, counselors and other specialists which a district can hire to diagnose, to develop treatment stategies, and to implement remediation for the children referred.

As we look closer at this situation, we find that it is not uncommon for a teacher to wait from three weeks to several months before a psychologist, etc. can schedule a diagnostic session for a referred child. Even then, the specialist is only able to see the child under conditions which are often different from those which precipitated the child's behavior in the first place. Further, if the child is absent the day scheduled, he may have to wait several more weeks for the psychologist's return visit.

One cannot fault the specialists for this delay. The number of cases referred to them may exceed all possibilities of doing a thorough diagnosis on each referred child, let alone help implement a treatment strategy.

It is easy to see, therefore, that teacher hesitation, budget priorities and diagnostic scheduling work hand-in-hand to limit the possibility that appropriate services will reach a child in time to be of most help. As the system now works, a kid has to make his wheel squeak pretty loud before he gets assistance. Even then, much of that "help" is diagnostic -- not treatment. The specialist confirms what the teacher often already knows, but she and the child are still a long way from knowing what to do about the learning problems.

B. LEGISLATIVE, LEGAL, AND PARENTAL PRESSURES:

Since a large number of our kids graduate or drop out of school without being able to adequately read or do simple math problems, there are growing efforts to up-grade our educational system. Legislative mandates for public schools to provide services to the retarded, LD and ED children are now law in 35 states. As a further example, during 1971 alone, nearly 1,000 bills were introduced in state legislatures involving the education of the handicapped. Similar activity is going on in the Congress.

Also at the Federal level, the HEW Bureau of Education for the Handicapped has taken the leadership to establish long-range identification and service goals. For instance, the National Advisory Committee on Handicapped Children issued A Call To Action on April 16, 1973. In their request they state that, "No handicapped child should be asked to wait for services. Their future is now. Education for the handicapped today means a full life with economic, social, and moral self-sufficiency." The NACHC goes on to recommend as one of their long term goals, the "unbiased testing, assessment and identification" of the handicapped.

FKSN FEEDBACK TIME

Walt:

-Let's set a time to discuss ways of using FKSN to screen our area. My calendar is open the dates of____, ____, ____, & ____, so give me a call.

-I am interested in district ☐, intermediate ☐, and/or state ☐ level screening.

-Please send me____copies of your screening instrument to review with our staff.

The following people should also receive a copy of your report.

Name_____ **Address** _____

Name_____ **Address** _____

Name_____ **Address** _____

Comments pro or con: _____

Name _____ **Position** _____

_____ **Address** _____

_____ **Phone (___)** _____

zip

PLEASE FOLD & RETURN

The courts, too, have joined the call for action with landmark decisions in Alabama, Pennsylvania, and Washington D.C. These judgments maintain that public schools must provide, under the 14th Amendment's equal protection clause, appropriate educational services for all children -- not just the "norm".[31]

Children may not be excluded from school. Further, districts and states may not use budget limitations as a reason for noncompliance. To support their decision, the judges in the Alabama case ordered the State to sell some of its land to help pay the increased cost of supplying services.

Similar cases are now pending in California, Delaware, Massachusetts, Michigan, and North Carolina. Also, the ruling in Serrano vs. Priest seems quite consistent with these court actions.

As for parental input, the effective lobbying of the Council for Exceptional Children and its many related organizations is being increasingly felt by legislators, judges and educational administrators. For instance, on the East Coast The Pennsylvania Association for Retarded Children, Inc. took direct action by starting its Pennsylvania Childhunt to locate some 50,000 retarded kids who had been denied a free public education.

Governor Milton J. Shapp issued the following statement on October 8, 1971, in support of this effort:

> In this consent agreement which the Federal Judges accepted....we spell out how state law will be administered to implement the section of the Pennsylvania Constitution which guarantees every child in the Commonwealth the right to a free public education. The agreement recognizes the state's responsibility to uphold the doctrine that every child can benefit from an educational program and that where feasible, this program should begin at a preschool age.[25]

Much praise should be given to the valiant and determined efforts of these parent organizations. For years, they have been leading the fight and footing the bill to get their kids an education. Paying property and state taxes plus paying for private school instruction has meant double taxation for many parents. However, the realignment of public school resources and early identification programs should now ease this burden.

C. THE FINANCIAL DILEMMA:

One result of these legislative, legal and parental activities, might be that the financial strain on school districts and state budgets is going to increase. Obviously, finding and providing services for more educationally handicapped kids is no way to stay in the black.

Let's take a closer look at this dilemma. Through such extensive studies as the National Educational Finance Project (NEFP) it is clear that current policy and instructional methods cost districts more per child to educate the handicapped than other groups of children.[16] For example, using an index of 1.00 for the cost of educating an elementary school child (grades 1-6), Dr. Johns and his team suggest that the "weighted pupil" index for a mentally handicapped child is 1.90, for physically handicapped children it is 3.25 and for children with special learning disorders, the index is 2.40. Therefore, if a district is already feeling the financial pinch, it may take considerable incentive for it to try to identify more kids in its classrooms and community to which services should be provided.

A number of districts have obviously faced this dilemma. They realize that some kids need more services than others and that their referral lists are incomplete. They also realize that a phased approach to providing these services is economically and educationally sound. However, the only way they have had of planning ahead for the needs of educationally handicapped kids is through the use of the "national incidence figures".

D. NATIONAL INCIDENCE FIGURES AND INDICES:

Many a federal grant and legislative proposal has based its budgets on these figures. Unfortunately, national averages have all the problems of any measure of central tendency. They (1) do not show the wide differences between schools within a district nor (2) do they show the vast differences between districts within a state. Also, there is evidence to indicate that these averages generally underestimate the number of kids needing services in any district.

Therefore, in view of the NEFP findings, financing patterns, and low estimates, it costs some districts much more than their state foundation plan permits to adequately provide services to the kids who need them. This leaves districts with the choice of providing the services, while hoping for reimbursement so they don't go in the red, or ignoring the needs of the kids. The latter decision is unfortunately made much too often.

One approach which does not use national incidence figures has been suggested by Dr. Bill Wilken from Georgia State University. His computer simulations attempt to equalize educational financing within states by using the total number of Title I kids in a district and providing more money in the state formula for their education.

Here again, the financing is clouded. In the Johns NEF project, "weighted pupil" indices for an unknown population are used. On the other hand, the Wilken formula uses a body count arrived at with criteria which are economic rather than educational.

Until an adequate procedure is developed to assess the extent of educational needs within districts, these efforts to equalize educational opportunity through more equitable funding will be unsatisfactory. Also, neither the national incidence figures nor the Johns or Wilken approach actually identifies specific children, assesses their potential needs and then assigns some measure of the potential costs associated with providing them with appropriate services. (The NEFP indices come closest to potential costs but even here, the latitude for program planning is very limited by their use of fixed values and broad categories.)

It boils down to the fact that a district or state cannot provide services to a number -- a "guesstimate". Kids are the recipients of our educational resources, and services cannot be provided for them unless we know who they are in time to do something about their needs. Legislative mandates, court decisions, and parental lobbying will have little effect until a comprehensive screening procedure is used.

E. INITIAL LARGE-SCALE IDENTIFICATION EFFORTS :

From the federal level on down, there have been recent efforts to implement identification programs. However, these activities have met with limited success.

Pennsylvania's "Childhunt" is only one of many such efforts. Other examples include the Study of Handicapped Children and Youth which was conducted during 1970-71 by the Michigan Department of Education.[1]

As State Superintendent Porter wrote in his foreword to the report,

> The first purpose of this study is to provide the Michigan Legislature with information concerning the number and type of handicapped children and youth in Michigan and the services currently being provided for them. He further stated that the second purpose is to insure that local school districts have the opportunity to assess the educational needs of their handicapped children and to develop educational plans to meet the needs of these children in their own communities.

Similar state-wide efforts have been attempted by Nebraska with its Nebraska Handicap Information System and by South Dakota.[23] In Utah teachers were asked to write down the names of the retarded, emotionally disturbed, speech impaired, etc. children in their classroom. Mississippi has also used similar techniques in the area of the mentally retarded.

In some instances, multiple districts have hired teams of psychologists to screen for the educationally handicapped. One such five-district project in Missouri hired a team of psychologists and support staff to screen all of the enrolled

second graders for learning disorders. They were not looking for any other category of need nor at any other grade level. Some $180,000 was spent for the first year of the project. Also, treatment for the identified second graders was not intended to start until the following year.

F. PROBLEMS:

As it turns out, many of the state level identification projects mentioned have been plagued with problems. For the most part, their results include only those kids who have filtered through the school referral system or have been collected on public school, Health Department or social service lists. They also reflect only that data which the other agencies would share with the Department of Education. The Michigan study, for example, reported numerous instances where inter-agency cooperation was very lacking.

It becomes a situation where in order to be referred, a child's behavior has to be quite outstanding, and even then he is not assured of being part of the information used for long-range planning and budgeting. Consequently, most of these efforts to combine lists have unfortunately had more to do with politics and policy than with the actual number of kids needing services.

As for the efforts to get teachers to label the kids in their classroom, there is justified concern over prejudicing the teacher's judgment about a child. Secondly, each teacher has a different set of criteria about what a mentally retarded child actually is. Therefore, the results from these methods may be questionable at best and may end up doing more harm than good.

On the other hand, screening projects like the one in Missouri, where psychologists were hired, required massive amounts of time, money and patience to screen a limited segment of the school-age population. It seems that other procedures might be more comprehensive and less expensive.

G. SCREENING INSTRUMENTS:

Whether the financial dilemma plus the problems with estimates and lists continue to deny services to kids depends a lot on (1) whether a more systematic method is found to identify kids before their learning problems become so costly, and (2) whether procedures are worked out to more efficiently use the diverse resources presently available to a district.

In an effort to reduce the effect of some of these problems, numerous screening instruments have been designed and tested over the past few years. They do not rely on the referral system or worse yet, on an accounting of the number of kids in reimbursed programs (a practice which reflects more about a district's ability to set up and pay for such programs than it does about the number of kids needing these services).

Most of these instruments are, however, limited to only one category of disability, i.e. only speech or only the emotionally disturbed. (A listing of many of these screening instruments is supplied in Appendix A.) Therefore, they do not provide a comprehensive profile of the multiple areas of need which an individual child may have nor do they provide a total picture of all the potential learning problems within a given classroom, school, or district.

Another problem which some of these instruments have is their reliance on the child's test-taking ability. Therefore, if a child is not up for taking the screening test, he may fall out as a false positive in the data.

One very encouraging note from these early efforts is the fact that those instruments which derive their results from the teacher's observation of her children, eliminate the variable of the child's test-taking behavior. More importantly, teacher ratings seem to have the highest correlation with future achievement scores (Keogh, & Smith, 1970), (Henig, 1949) and (Ilg, Ames & Apell, 1965), and actual behaviors (Harth & Glavin, 1971).

H. EARLY IDENTIFICATION SYSTEM CRITERIA :

It appears then, that to be truly effective, screening procedures on a building, district or state level will have to meet the following criteria:

1) The procedure must be able to screen all school aged kids --- the earlier the better....K-6 at least if not K-12.

2) It must provide a comprehensive profile of each child's potential needs - not just those in a given category.

3) It must not use large amounts of teacher time.

4) It should free specialists to use their needed skills for more than psychometry.

5) It should not force teachers to label the kids they teach.

6) It should not rely on referral lists, national incidence figures or indices, but rather on the actual school population being screened.

7) It should be inexpensive to administer, analyze and report.

8) It should be as accurate as possible but not meant to be an indepth diagnosis. Such testing, if needed, can be provided as a part of follow-up services.

9) Large populations should be easily screened with minimal disruption to the classroom and districts.

10) The results should be reported in a format which is easily used and directly applicable to planning, budgeting and legislative efforts.

11) The profiles and nomenclature should be consistent with current practices. Subcategories of need should be able to be combined if planning for similar groups is desired. However, where significant differences exist in the diagnostic and treatment resources, the subcategories should be able to be isolated and planned for separately.

12) The results should be easily updated. Referral lists from the district and community should be able to be added without duplicating the same child's needs and thereby inflating the figures.

DEVELOPMENT

The design for "Finding Kids with Special Needs" is modeled after the vignette approach used by Dr. George Stern in his Classroom Integration Inventory[4] and Drs. Chauncy Rucker and Robert Gable in their Educational Programming Scale-4.[28] Both of these instruments were designed to assess the attitudes of teachers toward handicapped children, and to gather group data on the program of services which the teachers would recommend for each behavior described.

The use of vignettes has several advantages. First, it does not force teachers to label children. Secondly, rather than each teacher using his or her own criteria, vignettes provide standardized descriptions of observable behavior which can be validated by experts prior to being used to gather data. They also permit data to be quickly gathered from teachers rather than having to take the time and expense to send outside observers to every classroom to evaluate each child.

It must be mentioned, however, that neither of these instruments was designed to screen kids for possible learning problems. They were only meant to assess teacher attitudes and help with program planning.

So that data could be gathered by FKSN on individual children and then grouped by classroom, school and district, 75 vignettes from the Sterns instrument were modified. All references to age or grade in school were removed. Also, vignettes in the retarded and SLD areas were added.

A. CONTENT VALIDITY:

These vignettes were then given to 19 experts in special education. Each of these experts works with the educationally handicapped and regular classroom teachers. Five consult for a State Department of Special Education, nine work with kids in a Joint County School System and five work with teachers and kids as part of a federal project.

The specialists independently rated the modified vignettes along two parameters: (1) the category of behavior described by each vignette, and (2) the level of severity (mild or severe) represented by the behavior. Each vignette covered only one of the following areas of special need: (1) vision, (2) hearing, (3) retardation, (4) gifted, (5) learning disabled, (6) emotionally disturbed, (7) motor and other health problems, (8) speech, (9) reading and (10) math. The mild and severe subcategories were assigned to areas 1-8.

The 39 vignettes which had rater agreement of 75% or more were then chosen to describe the 18 subcategories of need. For those areas which may be described by several different behaviors, such as mild ED, mild motor or severe speech, four vignettes were selected. The other subcategories were represented by two behavioral descriptions. (Examples of some of these vignettes are listed in Appendix B.)

B. CONSTRUCTION:

Once the validated vignettes were randomly mixed throughout the instrument and numbered, a computer program was written to match each description to the category assigned by the specialists. Instructions and examples for the teachers were also written and tested by impartial judges.

From the beginning, careful attention was given to the broad range of behaviors which may be causing learning problems for a child. Therefore, rather than being seen as just ED or in need of speech correction, a child may show up in both areas. This type of reporting also eliminates inflated counts which may actually be only a small number of kids whose names are duplicated on multiple lists.

If grouped data are needed, the 18 subcategories may be collapsed into the ten major areas of need or even reduced further to look at multiple handicapped groupings. This flexibility was purposefully built in for later administrative and planning use.

Further, by using both mild and severe levels of need, the screening results give psychologists and administrators a good indication as to the amount and type of resources needed for an individual child or groups of kids in a classroom, building or district.

As a final point, it is important to note that this breadth was also designed to find kids rather than exclude them. Therefore, marginal cases are identified before they become major problems. In such instances, the needs of these kids may then be handled by limited diagnostic and treatment follow-up, leaving more time for specialists to work with those kids who have more severe learning problems.

FIELD TEST

A. PUBLIC RELATIONS:

During February of 1973, the State Directors of Special Education in five midwestern states were contacted to request their cooperation in field testing FKSN. Schools were then selected from urban, suburban and rural districts as well as from a multi-county school system. Where multiple districts were involved, both the county and local school superintendents were contacted to seek approval for the pilot testing. For single district testing, it was the local superintendent who gave the go-ahead.

Excellent cooperation was received from all personnel at each level. For local coordination, however, the main channel of communication was through each district's Director of Special Education. They kept the building principals informed and through their special education consultants, handled much of the informal communication necessary for a project of this scope.

B. DATA COLLECTION:

During April 1973, screening instruments were sent to each coordinating Director. They, in turn, distributed the appropriate number of instruments to each building principal who passed them out to the teachers.

FKSN was easy for the teachers to complete. They just read each vignette and wrote down the names of any children in their classroom who had behavioral patterns similar to those described. Along with each name they wrote, they also included a code to indicate whether this child had been previously diagnosed, whether the child needed immediate attention and/or whether present services were felt to be adequate.

If the teachers did not have any kids like those in the vignettes, they moved to the next description. On the other hand, if a specific child's learning problems were not described by any vignette, then the teacher wrote this child's name on the back of the response sheet and described the problems.

The same child's name may appear on a teacher's list ten times but the computer program groups these responses under the appropriate area of need. However, since most of the teachers' data sheets only listed an average of seven children, writing was minimal and reading time was also short.

Once completed, the principal collected the answer sheets and returned them to the coordinating Special Education Director. District and multi-district data were then batched and sent for analysis.

In all, instruments were sent to 131 schools. A total of 110 schools returned data sheets for an 84% return rate. As a result of this field test, over 24,825 K-8 kids were screened by 993 teachers. From this population, 6,448 children were identified as having one or more areas of special need. A summary of these data is provided in Table 1.

C. PROCESS FEASIBILITY:

Special attention was paid not only to field testing the instrument but also to the process of data collection. To assess the feasibility of district or multi-district wide screening, the channels of communication and data handling had to be checked. Careful analysis in a nine district special education cooperative in Kansas and a six county, 37 district school system in Iowa, indicates that minimal disruption occurred in the buildings, existing lines of communication took care of most questions, and anxiety was very low. Of equal importance is the fact that the data came back with a minimal number of reminders, in usable form, and in time to be analyzed.

From a sample of 36 of the 993 teachers, it was found that the process took 67% of the teachers 25 minutes or less to read the instructions and screen all of the children in their classroom. The most time indicated by any teacher was 55 minutes. The instructions were clear for 95% of these teachers. This finding is verified by the excellent quality of the raw data returned. Any variance from the expected responses was not significant enough to cause any teacher's data sheet to be unusable.

D. CONFIDENTIALITY:

Since some classroom teachers, principals and superintendents asked that the childrens' names be kept confidential, the data collection was set up to accommodate this justifiable concern. Once again, the purpose of the screening, as seen by the districts and the developer was not to generate lists of names for broad dissemination. On the contrary, it was to identify the learning problems of specific kids so that district personnel could more effectively administer local, state and federal funds. This means getting services to the kids as soon after their needs are identified as possible.

With this child-oriented goal in mind, a procedure was developed to make it possible for a secretary at the local district level to code each of the names on the data sheets supplied by the teachers. Any questions arising from a teacher's responses were interpreted and coded by a specialist. The numerical data was then sent on for computer analysis. This approach permits the results to be based on actual kids in actual classrooms while assuring local control and confidentiality of the names of the teachers and the kids they identified.

TABLE I. FKSN FIELD TEST SUMMARY

LOCATION	SCHS.	CLSRMS.	KIDS IDENTIFIED	POSSIBLE SPECIAL NEEDS																	
				VIS.		HRG.		RET.		GIF.		SLD		ED		MTR.		SPE.		RDG.	MTH	TOTAL
				M	S	M	S	M	S	S	G	M	S	M	S	M	S	M	S			
IOWA	77	632	3641	118	14	77	7	923	18	170	101	836	53	907	197	88	4	687	133	800	486	5619
KANSAS	14	171	1348	73	4	22	8	290	5	76	18	393	37	378	102	67	2	286	64	354	230	2409
MISSOURI	5	95	873	36	7	12	2	198	2	34	9	155	25	234	66	69	1	145	58	171	110	1334
NEBRASKA	3	35	289	15	-	6	1	65	-	26	10	79	7	71	29	12	-	58	24	80	52	535
NORTH DAKOTA	11	60	297	13	1	1	1	47	3	8	1	131	3	46	2	14	1	32	20	67	43	454
TOTALS	110	993	6448	255	26	118	19	1523	28	314	139	1594	125	1636	396	250	8	1228	299	1472	921	10,351
COMBINED LEVELS OF SEVERITY				281		137		1551		453		1719		2032		258		1527		1472	921	10,351
% OF NEEDS IDENTIFIED				2.7		1.3		15.0		4.4		16.6		19.6		2.5		14.7		14.2	8.9	99.9%

The computer analysis and printout gave the local Director of Special Education, the building principal and specialists the code necessary to match the screening profiles with each name on the data sheets they retained. When responsibility for special services was assigned at the multi-district level, then that was the level where the names were retained. For example, this is how data were handled for the six county school system.

The point is that FKSN has been designed and tested to provide maximum flexibility and confidentiality. However, these features should in no way limit the usefulness of the results for state-wide planning. In fact, they should make such screening and planning even more feasible because local districts are more willing to cooperate when they have control of potentially sensitive information.

E. OUTPUT FORMATS:

1. STUDENT & BUILDING PROFILES:

Three basic output formats were developed. Prime emphasis was placed on making them simple to read, complete and accurate. Many "canned programs" were reviewed but none satisfied these criteria.

The computer program written for these analyses provides the output shown in Table 2 and Table 3. You will notice that the teachers' names are coded under the classroom heading. The children's names are also coded.

The "SN" number beside each area of exceptionality in a child's profile stands for "Special Need". This code contains additional information which the teachers supply about this specific behavior for this individual child. For example, a #3 indicates that this behavior has been diagnosed by another professional, i.e. a physician, psychologist, speech therapist, etc. A #2 indicates that the child needs special attention soon. A #7 indicates that the behavior is frequent, has been diagnosed and that special services were needed yesterday.

This SN feature obviously gives planners a starting point in deciding service priorities. The severity of the behavior (mild or severe) also gives an indication of the amount and type of resources needed by the child.

In addition to the teacher code, student code, learning problem areas, level of severity and SN number, the data are summarized for each building. This summary is provided two different ways. First, the number of kids identified in a building is totaled at the bottom of the student profile output. Secondly, the areas of need in each classroom are totaled by classroom and by category. Since some kids obviously have more than one potential learning problem, this means that the total for the building profile is greater than the number of kids identified.

TABLE 2. STUDENT PROFILE

KIDS WITH POSSIBLE SPECIAL EDUCATIONAL NEEDS IDENTIFIED BY TEACHERS IN * DEEP RIVER EL. * SCHOOL

ROOM	KID	EXCEPTIONALITY	SN	EXCEPTIONALITY	SN	EXCEPTIONALITY	SN	EXCEPTIONALITY	SN
1	1	RETARDED MILD	0	SPEECH MILD	0				
	2	RETARDED MILD	0						
	3	SPEECH SEVERE	0						
2	1	RETARDED MILD	0						
	2	VISUAL MILD	0	S.L.D. MILD	0				
	3	S.L.D. MILD	0						
	4	AFFECTIVE MILD	0						
	5	GIFTED SLIGHT	0						
4	1	S.L.D. MILD	0	MOTOR MILD	0	SPEECH MILD	0		
5	1	AFFECTIVE MILD	0	SPEECH SEVERE	0	READING < 5%	0		
	2	RETARDED MILD	0						
	3	AFFECTIVE MILD	0	READING < 5%	0				
	4	HEARING MILD	0						
	5	SPEECH MILD	0	MATH < 5%	0				
	6	READING < 5%	0						
	7	GIFTED SLIGHT	0						
	8	AFFECTIVE SEVERE	0						
	9	MATH < 5%	0						
	10	MATH < 5%	0						
6	1	RETARDED MILD	3						
	2	SPEECH MILD	3	READING < 5%	0				
	3	S.L.D. MILD	3						
7	1	AFFECTIVE MILD	0						
	2	AFFECTIVE MILD	0						
8	1	AFFECTIVE SEVERE	3						

TOTAL KIDS IDENTIFIED IN * DEEP RIVER EL. * SCHOOL WITH POSSIBLE SPECIAL NEEDS = 25

TABLE 3. BUILDING PROFILE

TOTAL NUMBER OF SPECIAL NEEDS (NOT NUMBER OF STUDENTS) IDENTIFIED.

* DEEP RIVER EL. * SCHOOL

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
ROOM	VISUAL		HEARING		RETARDED		GIFTED		S.L.D.		AFFECT.		MOTOR		SPEECH		RDG.	MATH	
CODE	MILD	SEV.	MILD	SEV.	MILD	SEV.	SLT.	GRT.	MILD	SEV.	MILD	SEV.	MILD	SEV.	MILD	SEV.	<5%	<5%	TOTALS
1					2										1	1			4
2	1				1		1		2		1								6
4									1				1		1				3
5			1		1		1				2	1			1	1	3	3	14
6					1				1						1		1		4
7											2								2
8												1							1
TOTALS	1	0	1	0	5	0	2	0	4	0	5	2	1	0	4	2	4	3	34

2. THE MASTER LIST :

The third output format is a master list which provides great flexibility for planning at the local level. More importantly, it provides an excellent way to see that follow-up services are provided to each child identified. It also eliminates the duplication of names for any child who is in two or more classrooms such as departmentalized 5th and 6th grades or unit structured buildings.

The master list may be an alphabetical listing of all kids identified in a specific school, or it may be all the kids alphabetized by district or grade level, or area of special need, etc.

By assigning the follow-up services for a given child to a specific employee, the educational administration at whatever level of responsibility, be it building, district or multi-district, can monitor the progress of any additional diagnosis, treatment, evaluation, placement, etc. for that child. If it is decided that inservice training for specific classroom teachers is the most cost-effective way to get special services to a larger number of kids with similar problems, then the names of these teachers and kids can be grouped by the computer and printed. Once the training is provided, an assessment can be made later to find out if the children are in fact improving.

Such a master list was developed for the six county system in Iowa. Computer cards were punched for each of 3,014 kids. The cards were then sorted by the computer to provide an alphabetized listing. Table 4 shows how these same cards can be rearranged to provide a listing by grade level and area of need.

The first 14 digits contain a school, teacher and student code which permits the information on the card to be updated as services are provided. Sorts can also be run on these numbers to profile a county, a district, specific schools or specific classrooms.

In this example, student names have been removed to assure confidentiality. The codes following each student's name refer to specific areas of need, level of severity and SN number. These data are then followed by the teacher's name and grade level. Extra space is provided on the computer card format for additional data as needed.

TABLE 4. MASTER LIST

SCHOOL CODE	STUDENTS IDENTIFIED	NEEDS CODE	TEACHER	GRADE
57477704270501		2M37M 4M3	FISHER	3
57108904090701		2M34M35M3	GUSTOFF	3
48702904270801		2M34M 5M0	KIRKPATRIC	3
92676804030602		2M04M 6M0	MARIE	3
52314104110913		0M01M 7M0	REYNOLDS	3
57371504271404		2M34M77M3	STEFFES A.	3
48315404091205		3G35M27S0	LARSON	3
57106204090402		2M04M 8M0	CASTEK	3
06060904180203		2M04M38M3	FERREE	3
52609304091401		2M74M38M5	KASPER	3
57477704090104		2M34S38M3	BADRICK	3

VALIDATION

Now comes the most critical aspect of any instrument design--the validation. Are the results consistent with what happens in real life?

Great effort was taken to thoroughly analyze the field test data and to compare the profiles provided by the instrument with those supplied by psychologists and other professionals. The validation sample was then checked to see how closely it represents the larger field test population.

At the outset, the content validity of each vignette was established by the 19 experts. This assurance is obviously good but not enough. Therefore, three separate follow-up studies were carried out after the data were returned to verify the accuracy of the profiles.

Two of these studies compared the FKSN profiles with diagnostic findings from other professionals and instruments. The third checked the interrater agreement, i.e. did several teachers exposed to the same population, identify the same kids and agree on each child's potential problems?

A. SPECIAL SCHOOL FOR THE HANDICAPPED:

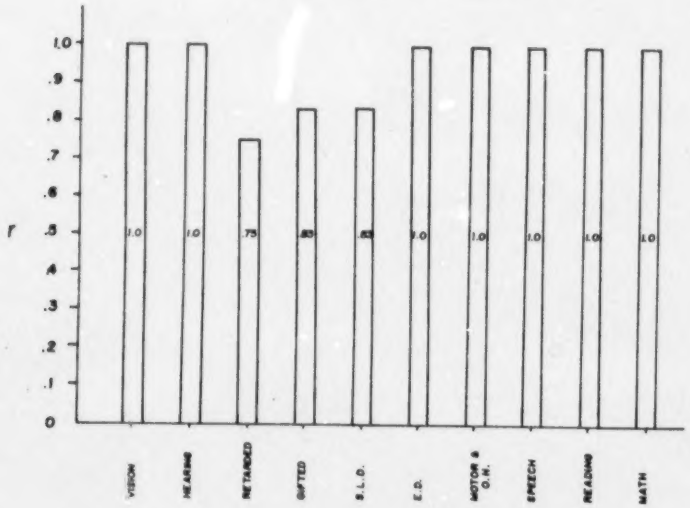
Since kids referred and placed have obviously already been extensively diagnosed, a special school for the handicapped is an excellent location to validate a screening instrument. None of the teachers had forced-choice responses to make to any vignette, and therefore, the names of the kids they identified were written beside vignettes which they felt matched the child's behavior.

Of the 24 kids from this school, only four had areas of their diagnostic profile which differed with the screened profile. These differences were directly attributable to two of the 39 vignettes. Review of these two indicates that only minor revision is necessary to remove their ambiguity.

Though nonindependence between areas is not assured, a Pearson r Correlation Coefficient seems to be the best measure of the relationship between the screened profile and the previous diagnostic results. The overall correlation between the FKSN profiles on these 24 kids and their previous diagnostic results was calculated to .89.

Values for r in each of the ten major areas of need are shown in Figure 1. Using Cohen's Kappa statistic gives basically the same results.

FIGURE 1. RELATIONSHIP BETWEEN FKSN PROFILES & PREVIOUS DIAGNOSES - SPECIAL SCHOOL



B. REGULAR CLASSROOMS :

Since many kids in regular classrooms have not been previously identified and therefore, have not been diagnosed or treated, it was difficult to find existing data to validate their profiles. However, since this population of kids is really the

only major group to screen (other than to find kids not in school), it was imperative that regular classroom results be validated.

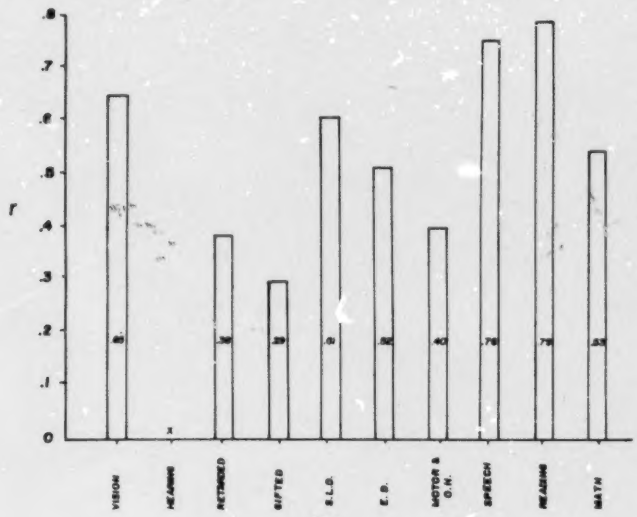
Another reason was to see how accurately the regular classroom teachers could use the vignettes. It was assumed that they may not be as thoroughly familiar with specific children due to the larger number of kids they teach nor as tuned in to "abnormal" behavior as their colleagues in special schools. Therefore, a follow-up study was conducted.

The population for this validation represents 592 children who were identified by FKSN from the 2,151 kids in eight schools. These schools were all part of a nine district cooperative which had been established to provide special educational services.

Case files were then reviewed on 98 of these 592 children. All of these 98 appeared on both the Cooperative's referral lists as well as in the screening results. However, since only 70 kids had actually been diagnosed by the local psychologists, speech therapists, etc., the reports on the remaining 28 children were incomplete and therefore unusable for purposes of the validation.

Data were generated by comparing (1) each child's profile as described by his psychological reports, teacher comments, achievement test results and medical records with (2) the teacher's observations as recorded in the screening instrument profile. (Examples of the diagnostic tests used by this Cooperative are listed in Appendix C.)

FIGURE 2. RELATIONSHIP BETWEEN FKSN PROFILES & PREVIOUS DIAGNOSES - REGULAR CLASSROOMS



By using the same procedures to calculate the Pearson r Coefficient on these data as was done on the special school results, it was determined that r=.66 (p=.61, p=.70). Coefficients for each of the ten major categories of need are reported in Figure 2. These r values are the same when using 2 x 2, chi square tables for each area. Kappa values are slightly lower.

As Figure 2 shows, a variance was noted between the screening instrument profiles and the diagnostic reports for several areas. Looking more closely at the data for the mildly retarded, it was found that in some instances, teachers observed retarded behavior, and though the psychologists confirmed these low I.Q. levels, they recorded their findings as mild or severe SLD problems. It is worth noting in this regard, that a shift in the case file results appeared during the year that the Cooperative was starting SLD programs to meet State mandates for services in this area.

Another point to note is that since neither the FKSN validation sample nor the case files showed any kids with hearing problems, a coefficient could not be calculated. However, this lack of sample is not surprising in view of the low incidence of hard-of-hearing children in regular classrooms. No false positives were noted and therefore, the instrument appears to be sound in this area. Further testing will be done to verify this conclusion.

A slight difference was also noticed for withdrawn emotional behavior which did not show up as often on the screened profile as on the psychologist's reports. Since many of these 70 children were diagnosed several years prior to the teacher's screening, it is not known whether this behavior was absent by the time the child was screened or whether the instrument failed to pick up as many problems in this area. To be on the safe side, more vignettes in this portion of the affective domain have been added to the next edition.

C. INTERRATER AGREEMENT :

Now for interrater agreement. For this analysis, a junior high school was chosen since more than one teacher has the opportunity to observe the same kids. In this case, the 105 pupils in the 7th grade were screened separately by three different teachers.

Out of this group, 14 students were identified as having one or more learning problems. Upon review, it was found that only two of these 14 were not listed by all three teachers. When the separate profiles for each student were compared across raters, the coefficient of agreement was .899.

D. ACCURACY:

As the data in Sections A, B, and C indicate, FKSN accurately identifies kids with learning problems. Whether there is total agreement between teacher observations and psychological test results in all areas of need for a specific child is another question. Unfortunately, statistics do not help us much with the answer.

This dilemma leads us to an important consideration for these or any validation data. All that correlation coefficients show is the extent of the relationship between the two profiles. They do not attempt to indicate which is most representative of the child's actual needs. Therefore, it may be a toss-up trying to decide which is the more accurate measure of a child's behavior, i.e. (1) the results from the limited time a psychologist, counselor, etc. has to observe a child and test him or (2) the results from FKSN which are based on a teacher's daily observations over a period of months.

As reported earlier, the studies by Henig with first grade pupils and then by Ilg, Ames and Apell, each lend strong evidence to the validity of teacher observations. Further, the longitudinal study by Keogh and Smith which compared the predictive aspects of the visuo-motor behavior measured by the Bender with teacher observations and later achievement scores, drew the following conclusion.

> When strength of relationship between kindergarten predictive measures and later school achievement was evaluated with Pearson r, teachers' ratings had consistently significant correlations with achievement measures. Relationships between the Bender at kindergarten and later school achievement were generally lower and for the most part nonsignificant, especially for girls. For girls, only three of 12 possible relationships between the Bender measures and later reading achievement were significant; no relationship with arithmetic was significant.[19]

The Harth and Glavin study also supports the accuracy of classroom teacher ratings. In this case, the findings show that these observations serve as "a valid screening technique for emotionally disturbed students".[11]

It stands to reason that any person from outside the classroom who has been asked to diagnose a child has at best a few hours to a few days to elicit the behavior in question. Because of this time limitation, much reliance must be given to the results from instruments which confound the child's test-taking ability with his actual behavior.

This time limitation may also explain why the coefficients for the regular classrooms are lower than the ones from the

special school. In the latter case, the specialists had much more contact with the children and consequently their conclusions were closer to those observed by the teachers.

This is not to suggest that much more indepth diagnoses are not possible for specific behavioral areas when done by outside professionals. However, it seems that a strong case has been made for the predictive validity of a classroom teacher's observations. Given an instrument to guide her thinking, she probably has more information on which to draw over a longer period than any other method of synthesis.

Another point to remember is that in the first round, it is extremely important to find kids who need help. If later diagnoses turn up additional problem areas in a child, so much the better for having gotten the child the initial help.

So, how effective was FKSN at finding learning problems? Well, if the number of areas identified by the outside professional for each grade level is compared with the number of areas picked up by FKSN, then the correlation coefficient is .97. This means that FKSN not only finds the kids referred but indicates at least as many potential problem areas as the professional diagnoses. It is also apparent that FKSN was much more effective than the referral system in use since the learning problems of 480 kids in these eight schools had not yet been referred.

Coefficients similar to those shown in Figure 2 have now been reported from an independent validation study involving 115 kids in still another of the five field-test states. The relationship between the number of kids on the referral lists for these schools and the FKSN totals are also similar to the eight schools reported above.

E. *REPRESENTATIVE SAMPLE* :

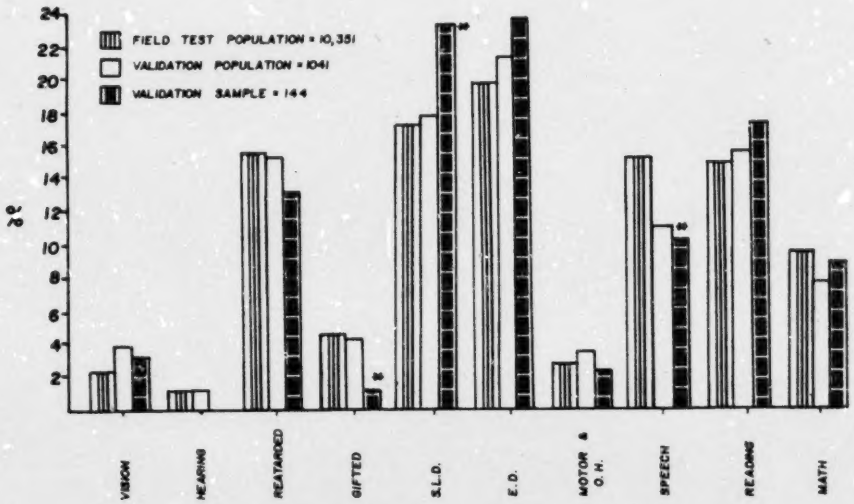
Before we leave the validation data, one important question still needs to be answered for statistical purposes. That is, how representative is the validation sample (N=144) of the larger field-test population (N=10,351)?

Using a 2 x 10, chi square analysis shows no significant difference between these two (X^2 = 11.23). However, doing individual t-tests on each area turns up slight differences in the Gifted, SLD, and Speech categories.

Knowing how the validation sample was selected helps interpret these differences. First, since the profiles were matched to diagnostic case files, the lower number of gifted kids in the sample is not surprising. Unless the gifted had some learning problems, they would not be referred. Secondly, the SLD increase is probably due in part to the effort to fill SLD programs to meet the legislative mandate. Finally, the decreased number of speech cases is likely due to a good speech program in this cooperative and a more middle-class, homogeneous student population.

Many of the schools in the larger field test included inner city schools which showed a higher proportion of speech problems in general.

FIGURE 3. HOW REPRESENTATIVE WAS THE SAMPLE ?



*A significant difference (p=.05) was noted between the validation sample and the field-test population for the Gifted, SLD, and Speech areas of need.

From these analyses, it seems fair to conclude that the sample is basically representative of the field-test population and that this population is representative of the schools in most states. Inferences to the outcome of similar screening efforts appear to be appropriate.

DISCUSSION

A. "JUST FOR STARTERS"

Now comes some important questions to be asked of any research. What difference does it make? How can the findings be used to improve education? In this case, the reverse can also be asked. What does it cost not to use FKSN to facilitate district, intermediate and state level planning?

Looking closer at this last question brings us back to why this instrument was designed to start with. If a child's learning

problems have to become acute before he stands out enough to be referred, then we do a great disservice to the child and end up spending more tax money to help him than would have been spent if the problems were noted earlier.

Being more acute, this child's behavior takes longer to modify, ties up more district resources and therefore, prohibits other kids from receiving the services they need. Both monetary and human waste are involved.

For the child who doesn't stand out, we are faced with a case similar to many kids who "slide-through" and "drop-out". Frustrated in the effort to achieve their potential, they cost society more as under-employed, unemployed, welfare recipients or criminals than they would have otherwise.

Granted, this is not always true, but enough so that we educators need to improve the system. Most of us realize its shortcomings. We also acknowledge the fact that knowing which kids have problems doesn't mean that we have the money or methods necessary to help all of the kids who need it. Knowing, however, does give us a start.

What FKSN does is fill the gap between the kids who have made it through the referral process and the actual number of kids who need special resources. Also, since confidentiality is built in and teachers do not label their kids, these concerns are reduced.

By having comprehensive profiles of the learning problems of individual children, district personnel should be freed to spend much more time developing and implementing treatment strategies. Consequently, greater effort can be spent working with the comparatively few kids with severe problems in any school. (For example, only 9% of the 10,351 problem areas identified in the 6,448 kids were considered severe.)

It boils down to the fact that professionals with special competencies <u>are</u> needed by school districts. However, as things presently stand, the referral system wastes their special skills by forcing them to spend too much of their effort being psychometric technicians. They have also been asked to concentrate on testing for <u>placement</u> rather than using their diagnostic techniques as an integral part of regular classroom and home treatment strategies. Consequently, the time they have left over to help alleviate the learning problems of children is significantly reduced.

B. ALTERNATIVES:

A major point of this discussion is that FKSN will find kids, but once identified, some changes in philosophy may be required to get needed services to them. Developing a long-range strategy is essential. Designing new ways to make better use of existing budget and staff competencies may also be needed.

Maintaining special classrooms is expensive. On the other hand, regular classroom teachers could handle a child's problem in its early stages with just a little support or extra training. Inservice may be enough for the latter. As for support, actually providing treatment, helping with small group activities, and working with the regular teacher makes a lot of sense.

We have to get away from the idea that a child "belongs" to a specific educator. Obviously, not every teacher or classroom has all the resources needed for every learning situation. Therefore, district specialists could facilitate efforts to get services to the identified children by helping the classroom teacher find, coordinate and implement special resources -- be they books, films, glasses, a hearing aid, neurological exam, or a self-paced learning machine. District personnel working as a team for children are bound to be more effective than a policy which expects one teacher to handle the total needs of every child in her classroom.

C. WHAT FKSN CAN DO FOR KIDS:

By using FKSN, not only should more kids get the services they need, but budgeting and long range planning should also be greatly enhanced. Obviously, services cannot be provided the following year to all kids identified. However, a comprehensive plan of action can be developed which looks at various alternatives for differential staffing, inservice training, facility utilization and funding.

Further, by providing names to district personnel rather than numbers, follow-up services to many of the identified kids can be started immediately. Adding the names of kids known to be in nonschool facilities or who are receiving no educational services at all, completes the list of kids for whom the schools should be planning. Specific staff personnel can then be assigned to each child with the responsibility to see that treatment and evaluation is received.

For the intermediate and state level, FKSN should be an exceptionally effective way to stimulate district planning while incorporating meaningful assistance for these two upper levels. As an example, legislative and funding proposals can be based on a much more accurate view of just what problems need to be dealt with. Priorities can be established, training programs developed, facilities better utilized and in the long run, lower costs should be realized through more effective, early intervention.

Other important considerations include the fact that FKSN is comparatively inexpensive to administer. It also takes a teacher 25 minutes or less to screen her whole class. Kids can be absent the day of the screening (as is too often a problem with group administered testing) and still have their needs identified. The data are easily coded for confidentiality and future use. Batch processing also keeps costs down and permits multiple district or state-wide data analysis.

PRESENT STATUS of FKSN

A thorough item analysis has been completed on the field-test version of FKSN. A few of the ambiguously worded vignettes have been revised and the instructions improved. The coding procedures and data sheets have also been simplified even further. The second edition of FKSN is being printed and will soon be available.

Many supplemental analyses of the field-test data have also been run. However, for the sake of brevity, these findings have not been included in this report.

Suffice it to say that some striking similarities and differences have come out of the comparison of FKSN incidence figures and the national incidence figures which suggest that the NIF underestimate certain categories of need. Other evidence indicates that the longer a child waits for services, the more likely he will have secondary handicaps which complicate his primary learning problems. As for speech, this area drops from 26.1% of the learning problems of kindergarten and first grade kids to 6.1% of the 5th and 6th grade learning problems. These findings are supported by the research of Carr and Stover and lend further weight to the validity of FKSN as a screening instrument.[3]

In addition to being able to supply the instrument and these research supplements, we are set up to handle large-scale data processing demands and to help any district, intermediate unit, or state department with its screening efforts. We have the experience, interest and desire to be of service, so give us a call or write for further information.

Dr. Walt Chappell
President

RESOURCE MANAGEMENT SYSTEMS, INC.
P.O. BOX 5518 CARMEL, CA. 93921

APPENDIX A. SCREENING INSTRUMENTS IN PRINT

1) Adjective Check List Creativity Scale

2) Aggression, Moodiness, Learning Disabilities Behavior Rating Scale

3) A Manual for Classroom Teachers: How to Recognize and Help Children with Mental & Emotional Disorders

4) A Program for Early Identification of Learning Disabilities

5) Behavioral Aspects of Learning Disabilities: Assessment and Remediation

6) Bower-Lambert Early Identification of Emotionally Handicapped Children Fundamental Interpersonal Relations Orientation-Behavior (Children's) Scales

7) Denver Articulation Screening Exam

8) Denver Developmental Screening Test

9) Developmental Screening Instrument

10) Devereux Elementary School Behavior Rating Scale

11) Elementary School Adjustment Scale

12) Goldman-Fristoe-Woodcock Tests of Auditory Discrimination

13) Gottschalk-Gleser Content Analysis Scales: Anxiety, Hostility, Social Alienation, and Personal Disorganization

14) Jansky Predictive Index for Reading

15) Louisville Behavior Check List

16) McDonald-Deep Test of Articulation

17) Metropolitan Readiness Test

18) Ottawa School Behavior Survey

19) Peterson-Quay Behavior Problem Check List

20) Predictive Screening Test of Articulation

21) Teachers Adjective Check List

22) Teachers Behavior Rating Scale

23) Templin-Darley Screening and Diagnostic Test of Articulation

24) The Pupil Rating Scale: Screening for Learning Disabilities

25) "What Kind of Person Are You?"

APPENDIX B. SAMPLE VIGNETTES FROM FKSN

1) Jane can read material which is about five grade levels above her class; however, her handwriting is poor and she is about average-to-above in most other subjects.

2) Stella's speech is laboriously slow, tortured, jerky and indistinct; her voice is monotonous in pitch and she cannot control its intensity.

3) Bill has no difficulty on the playground or at the blackboard but he gets quite uncomfortable when he has to use his eyes at close range for any length of time.

4) Every hour or so Alfred stares upwards at the ceiling for several seconds and loses consciousness; he has been like this for several years but is otherwise developing normally.

5) Bert doesn't seem to catch on to things as quickly as most, and needs to have things explained over and over again; eventually even though it takes longer, he appears to learn everything the other kids do.

6) Henry is defiant and stubborn, likely to argue with the teacher, be wilfully disobedient, and otherwise interfere with normal classroom discipline.

7) Sue has been placed in the lower reading group and has trouble with recognizing or decoding words even at that level.

8) John can't hear anything with his left ear, but he gets along fairly well if he can sit by the window, on the quiet side of the building, with the class to his right.

9) Chuck could play songs with one finger on the piano when he was four. Now he has begun composing little melodies to which he gives names like "Rainy Day", "Bert's Bike", or "Juice-Time".

10) Earl sulks, and sometimes gets quite noisy, whenever he loses the direct attention of the teacher.

APPENDIX C. DIAGNOSTIC INSTRUMENTS USED BY THE SPECIAL EDUCATION COOPERATIVE

1) Bender Visual Motor Gestalt Test
2) Draw-a-Person
3) Frostig Developmental Test of Visual Perception
4) Human Figure Drawing
5) Illinois Test of Psycholinguistic Abilities
6) Key Math Diagnostic Test
7) Peabody Picture Vocabulary Test
8) Rorschach Inkblots
9) Silvaroli Classroom Reading Inventory
10) Thematic Apperception Test
11) Wechsler Intelligence Scale for Children Test
12) Wide Range Abilities Test

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